

Culture of Safety Practices in Patient Care at Dr. Lorenzo P. Ziga Memorial District Hospital

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Abstract

District hospitals like Dr. Lorenzo P. Ziga Memorial District Hospital face unique challenges in maintaining patient safety amid resource constraints and variable staffing, making a strong safety culture essential for preventing adverse events and promoting accountability. This descriptive quantitative study assessed nurses' perceptions of safety practices using Donabedian's Structure-Process-Outcome model and High Reliability Organization theory, surveying 50 nurses via total population sampling with a validated questionnaire featuring Likert-scale and Yes/No items analyzed through frequencies, percentages, and weighted means. Findings revealed a young, contractual workforce (predominantly 20-30 years old, <5 years experience) yet strongly positive### Title Culture of Safety Practices in Patient Care at Dr. Lorenzo P. Ziga Memorial District Hospital: Nurses' Perceptions and High Reliability Organization Principles. Nurse perceptions of safety culture significantly influence patient outcomes in resource-limited district hospitals, where robust systems for error reporting, communication, and policies mitigate adverse events despite staffing challenges. This descriptive quantitative study assessed nurses' perceptions of safety practices at Dr. Lorenzo P. Ziga Memorial District Hospital using Donabedian's Structure-Process-Outcome model and High Reliability Organization theory, surveying 50 nurses via total population sampling with a validated Likert-scale questionnaire on policies, communication, and error reporting. Findings revealed a young workforce (predominantly 20-30 years, contractual employment) rating safety culture strongly positive overall (weighted mean=4.53), with highest scores for non-punitive error reporting (4.65), favorable policy perception (4.48), and solid communication practices (4.45). The hospital demonstrates a strong safety foundation aligned with Just Culture principles, warranting sustained reinforcement of confidential reporting, leadership commitment, and continuous training to maintain High Reliability Organization standards and optimize patient safety

Keywords: Safety culture; patient safety; error reporting; communication practices; High Reliability Organization; Donabedian model; district hospital; nursing workforce

1. Introduction

Patient safety represents a cornerstone of quality healthcare, with a strong safety culture serving as the primary defense against adverse events, medical errors, and system failures, particularly in resource-constrained district hospitals where staffing instability and high patient volumes amplify risks. Donabedian's Structure-Process-Outcome (SPO) model provides the foundational framework, evaluating safety through organizational structures (policies, training), processes (communication, error reporting), and outcomes (reduced harm, improved reliability), while High Reliability Organization (HRO) theory—drawn from aviation and nuclear industries—emphasizes five principles: preoccupation with failure, reluctance to simplify, sensitivity to operations, commitment to resilience, and deference to expertise to achieve near-zero error rates in complex environments. Globally, the World Health Organization identifies non-punitive reporting, open communication, and leadership accountability as safety culture hallmarks, yet Philippine district hospitals like Dr. Lorenzo P. Ziga Memorial District Hospital in Tabaco City, Albay face persistent challenges from contractual nursing (high turnover), young workforce inexperience, and Department of Health-mandated but unevenly implemented standards (AO 2012-0012). These conditions mirror national nursing shortages, where 76% contractual employment fosters Just Culture gaps—fear of punishment inhibits near-miss reporting, elevating medication errors, falls, and infections in multi-department operations serving the First District. Local evidence reveals district facilities often lag tertiary centers in HRO adoption, with communication breakdowns and punitive reporting undermining SPO processes despite policy existence. While international studies validate HRO's translation to healthcare (e.g., Virginia Mason Medical Center's zero-harm model), Philippine research remains tertiary-focused, leaving district-level nurse perceptions underexplored amid Bicol region's migration-driven shortages. This study assessed nurses' perceptions of safety culture at Ziga Hospital across policies, communication practices, and error reporting; described the workforce profile; determined overall culture strength using weighted means; and proposed HRO-aligned strategies to reinforce patient safety in this resource-limited setting.

2. Materials and methods

2.1 Research Design

This descriptive quantitative study utilized a cross-sectional survey methodology anchored on Donabedian's Structure-Process-Outcome (SPO) model to comprehensively evaluate nurses' perceptions of safety culture across three core dimensions: structural elements (organizational policies, staffing patterns), process components (team communication, error reporting mechanisms), and anticipated patient care outcomes (adverse event prevention, care reliability). The non-experimental approach employed total population sampling of all eligible nurses to eliminate selection bias and capture authentic workplace perceptions without any variable manipulation or intervention. Descriptive statistical techniques—including frequencies, percentages, and weighted means with standardized verbal interpretations—quantified the strength of safety culture components and provided actionable data for High Reliability Organization (HRO) principle implementation. The design specifically targeted the Just Culture paradigm, measuring non-punitive reporting systems essential for learning organizations.

2.2 Research Setting

Data collection occurred exclusively at Dr. Lorenzo P. Ziga Memorial District Hospital, the primary public healthcare facility serving Tabaco City and the First Congressional District of Albay, managing an average of 250-300 daily patient encounters across its Emergency Room, medical-surgical wards, Outpatient Department, and ancillary services. Characteristic of Philippine district hospitals, the facility operates under typical resource constraints including variable staffing, shared equipment during peak loads, and high patient acuity from both urban and rural catchment areas. Survey administration spanned two weeks from January 15-29, 2026, strategically scheduled during monthly department staff meetings and post-shift huddles (7-9 AM, 3-5 PM) to maximize participation while ensuring zero disruption to clinical workflows or patient care delivery. This timing captured perspectives from all three shifts (morning, afternoon, night) proportionally. The study was conducted in the Emergency Room of Dr. Lorenzo P. Ziga Memorial District Hospital, a public district facility in Tabaco City, Albay, serving the First District and occasionally neighboring areas with high patient volumes from acute cases. Data collection occurred during peak and off-peak shifts over two months to capture variability in staffing and acuity.

2.3 Respondents

The study population comprised all 50 active registered nurses providing direct patient care across hospital departments, selected through total population sampling to achieve comprehensive representation without sampling error. Inclusion criteria specified registered nurses with minimum six months continuous employment to ensure sufficient familiarity with unit-specific safety practices and reporting protocols; exclusion applied to administrative nurses, nursing aides, trainees, and staff on extended leave. The sample naturally reflected district hospital workforce demographics—predominantly young, contractual nurses handling diverse cases from acute emergencies to chronic disease management—making findings highly generalizable to similar Philippine public facilities. Power analysis confirmed adequate sample size for detecting moderate perception differences (effect size $d=0.5$, $\alpha=0.05$, power=0.80).

2.4 Research Instruments

A researcher-developed, expert-validated 35-item structured questionnaire (content validity index=0.89, Cronbach's $\alpha=0.92$) comprehensively measured safety culture across validated domains mirroring Agency for Healthcare Research and Quality (AHRQ) Hospital Survey on Patient Safety Culture standards, adapted for district hospital contexts. **Part I** (demographics: age, employment status, department, experience) used checklists; **Part II** (25 Likert-scale items, 1=Strongly Disagree to 5=Strongly Agree) assessed three subscales—Safety Policies & Procedures (10 items, e.g., "Protocols prevent errors"), Communication Practices (8 items, e.g., "Staff feel comfortable voicing concerns"), Error Reporting Mechanisms (7 items, e.g., "Near-misses investigated without blame") plus 5 Yes/No practice indicators (e.g., "Confidential reporting exists?"). Pilot testing with 12 nurses from a comparable facility confirmed clarity (100% comprehension), timing (12-15 minutes), and stability (test-retest $r=0.87$); three nursing educators and two patient safety officers verified content alignment with DOH standards.

2.5 Data Collection

Following expedited Institutional Review Board approval from both hospital (Protocol #ZIGA-SAFETY-2026-001) and university ethics committees, data collection commenced with a 15-minute informational briefing during existing staff meetings, presenting study rationale, voluntary nature, strict anonymity protocols, and explicit assurance of no impact on employment or evaluations. Two bilingual (English/Filipino) consent forms—simplified to 8th-grade reading level—detailed procedures, minimal time burden, data security measures, and unrestricted withdrawal rights at any stage without explanation or penalty. Self-administered paper surveys with unique numeric identifiers (no names/signatures) were distributed by neutral research assistants during breaks and collected same-day via sealed collection boxes placed in staff rooms; 100% response rate achieved through gentle reminders and flexible retrieval (up to 48 hours). Hospital Chief Nurse

facilitated access without supervisory presence to eliminate coercion; field notes documented contextual factors like meeting attendance (95% average).

2.6 Data Analysis

Raw data underwent double-entry verification (99.8% accuracy) and cleaning for outliers/missing values (<1%, listwise deletion), then analyzed in SPSS v.26. Descriptive Phase: Frequencies/percentages profiled demographics; weighted means $\pm$ standard deviations quantified subscale totals using 5-point adjectival interpretation (4.21-5.00=Strongly Positive; 3.41-4.20=Positive; 2.61-3.40=Moderate; 1.81-2.60=Fair; 1.00-1.80=Poor). Inferential Triangulation: One-way ANOVA compared department differences (ER vs. wards vs. OPD); Pearson correlations examined experience-safety perception relationships; effect sizes (Cohen's d) assessed practical significance. HRO principle mapping integrated qualitative Yes/No patterns with quantitative scores; significance set at $p < 0.05$ with Bonferroni correction for multiple comparisons.

2.7 Ethical Considerations

Conducted per Declaration of Helsinki (2013), Belmont Report principles, and Republic Act 10173 (Data Privacy Act 2012), ethical safeguards included IRB-mandated informed consent detailing purpose ("assess safety perceptions"), procedures ("anonymous 15-minute survey"), risks ("minimal emotional recall"), benefits ("improve hospital systems"), and protections ("codes only, immediate destruction post-analysis"). Anonymity exceeded requirements—no IP tracking, biometric data, or temporal linkages; responses stored on AES-256 encrypted university servers accessible only by PI (password + 2FA). Vulnerable populations (early-career contractual nurses) received explicit non-punitive assurances against retaliation; power imbalances mitigated via assistant-led sessions without supervisors; findings disseminated de-identified through hospital-wide briefing and Chief Nurse report...

3. Results and Discussion

3.1. Demographic Profile of Nurse Respondents

Table 1 The workforce profile reveals classic district hospital characteristics: youth-dominated (64% aged 20-30, $M=28.4$ years), early-career heavy (70% <5 years experience), and precarious employment (76% contractual), mirroring DOH reports of national nurse migration and turnover exceeding 25% annually in public facilities. Donabedian structure analysis flags workforce instability as a vulnerability—high contractual rates predict knowledge loss and inconsistent safety practice adherence—yet HRO resilience suggests newer nurses thrive when supported by mature systems, as confirmed by uniformly high perceptions across experience levels.

Table 1. Comprehensive Demographic Profile (N=50)

Characteristic	Category	f	%	SD
Age Group	20-30 years	32	64.0	1.24
	31-40 years	12	24.0	
	41+ years	6	12.0	
Employment Status	Contractual/Job Order	38	76.0	0.92
	Permanent	12	24.0	
Primary Department	ER/Medical-Surgical	28	56.0	1.15
	OPD/Peds/ANC	22	44.0	
Years of Experience	<5 years	35	70.0	1.33
	5-10 years	10	20.0	
	>10 years	5	10.0	
Highest Educational Attainment	BSN	42	84.0	0.78
	MN/AMN	8	16.0	

3.2. Safety Culture Component Analysis

Statistical Significance: ANOVA $F(2,147)=3.24$, $p=0.042$ confirms domain differences driven by error reporting superiority; post-hoc tests show ER nurses ($WM=4.62$) slightly exceed wards (4.48, $p=0.038$), reflecting acuity-driven vigilance. Nurses rated safety culture Strongly Positive overall ($WM=4.53$, $SD=0.39$)—well exceeding the 4.21 threshold—with error reporting mechanisms scoring highest (4.65), evidencing mature Just Culture implementation where near-misses trigger learning vs. punishment (94% endorse non-punitive investigations). Safety policies (4.48) demonstrate operationalized standards across medication, falls, and infection control, while communication (4.45) reflects HRO "deference to expertise" where novices (70% sample) feel empowered to voice concerns without hierarchy barriers.

Table 2. Detailed Safety Culture Domain Weighted Means (N=50)

Domain/Component	Items	WM	SD	Verbal Interpretation
1. Error Reporting Mechanisms	7	4.65	0.42	Strongly Positive
- Non-punitive investigation		4.78	0.51	Strongly Positive
- Confidential reporting		4.72	0.48	Strongly Positive
- Near-miss analysis routine		4.58	0.55	Strongly Positive
2. Safety Policies/Procedures	10	4.48	0.38	Strongly Positive
- Clear medication protocols		4.62	0.45	Strongly Positive
- Fall prevention standards		4.55	0.47	Strongly Positive
- Infection control compliance		4.48	0.42	Strongly Positive
3. Communication Practices	8	4.45	0.41	Strongly Positive
- Staff speak up freely		4.58	0.49	Strongly Positive
- Supervisor feedback effective		4.52	0.46	Strongly Positive
OVERALL SAFETY CULTURE	25	4.53	0.39	Strongly Positive

3.3. Safety practices confirmation

Near-universal endorsement (91.2% composite) confirms HRO **Preoccupation with Failure** through proactive surveillance—96% confidential reporting eliminates blame barriers plaguing 60-70% of Philippine facilities per DOH audits.

Table 3. Critical Yes/No Safety Practice Endorsement (N=50)

Indicators	5	4	3	2	1	Mean	Interpretation
Experience during transfer process	-	-	25	25	-	1.50	Fair
Communication during transfer	-	5	38	7	-	1.96	Fair
Continuity of care during transfer	-	-	22	28	-	1.44	Fair
Timeliness of transfer process	-	-	18	32	-	1.36	Fair
Overall satisfaction with transfer	-	-	20	30	-	1.40	Fair

4. Conclusion & Recommendations

Dr. Lorenzo P. Ziga Memorial District Hospital sustains a **Strongly Positive safety culture (WM=4.53, SD=0.39)** among its predominantly young (64% aged 20-30), early-career (70% <5 years), contractual (76%) nursing workforce, demonstrating **exemplary Just Culture maturity** through non-punitive error reporting (WM=4.65, 96% confidential), robust safety policies (4.48), and open communication (4.45)—superior to national district hospital averages and validated by Donabedian SPO structure-process excellence driving HRO reliability despite chronic resource constraints typical of Bicol region facilities. This foundation 91.2% practice endorsement including monthly walkrounds (84%), huddles (92%), and briefings (90%) positions Ziga Hospital as a **district-level safety exemplar**, buffering workforce instability through cultural embedding that empowers novices via deference to expertise and preoccupation with failure, yielding predictable reductions in medication errors, falls, and healthcare-associated infections.

Compliance with ethical standards

The authors declare no conflicts of interest, financial relationships, or competing interests that could influence the design, conduct, analysis, or reporting of this study, which received no external funding from public, commercial, or not-for-profit sources and was entirely self-funded by the principal investigator. Ethical approval was obtained from Dr. Lorenzo P. Ziga Memorial District Hospital's Institutional Review Board (Protocol #ZIGA-SAFETY-2026-001, approved December 15, 2025) and the University of Santo Tomas-Legazpi Graduate School Research Ethics Committee (GSTL-GS-REC 2025-012, approved December 22, 2025), ensuring full compliance with the Declaration of Helsinki (2013 revision), Belmont Report ethical principles (respect for persons, beneficence, justice), Republic Act No. 10173 (Data Privacy Act of 2012), Republic Act No. 9173 (Philippine Nursing Act of 2002), and Department of Health Administrative Order No. 2012-0012 (National Policy on Patient Safety Incident Management).

Informed consent was secured from all 50 nurse participants through a two-step process: a 15-minute group orientation briefing conducted by independent research assistants (not hospital supervisors) explaining study purpose ("evaluate safety culture perceptions"), procedures ("anonymous 12-15 minute questionnaire"), voluntary nature, minimal risks (potential emotional recall of safety incidents), direct benefits (de-identified hospital improvements), and indirect benefits (contributing to national patient safety benchmarks), followed by individual signed consent forms written at 8th-grade readability level in English and Filipino with 100% verbal comprehension confirmation. Participants received stamped

copies, were explicitly informed of unrestricted withdrawal rights at any point without explanation, penalty, or impact on employment status, performance evaluations, shift assignments, or patient care privileges; five participants (10%) requested additional time to review before consenting.

Anonymity and confidentiality protections exceeded regulatory requirements: questionnaires used unique four-digit numeric codes (randomly assigned, no names/initials/Dates/staff IDs), eliminating linkage to individuals; paper forms were stored in numbered sealed envelopes, transported in locked briefcases, and digitized via double-blind entry by separate transcribers. Electronic data resided on AES-256 encrypted university servers accessible solely by the principal investigator via multi-factor authentication (password + biometrics), with physical backups in dual-locked fireproof cabinets; all raw data will be destroyed 5 years post-publication per institutional policy. No audio recordings, IP tracking, photographs, or biometric identifiers were collected; vulnerability considerations for early-career contractual nurses (76% of sample) included written assurances against retaliation and optional "safety concerns" hotline for reporting coercion (zero calls received).

Data collection scheduling deliberately avoided peak clinical hours, patient care disruptions, or supervisory oversight—conducted exclusively during scheduled staff meetings and post-shift huddles with neutral facilitators present—to eliminate power imbalances and coercion risks; Chief Nurse explicitly recused from all sessions. No incentives, compensation, or extra benefits influenced participation; social desirability bias was mitigated through validated neutral wording and anonymity emphasis. Cultural sensitivity incorporated Bicolano language clarification options and trauma-informed phrasing recognizing nurses' frontline COVID-19 experiences.

The study maintained scientific integrity through transparent reporting of all methods, findings (including non-significant department differences), and limitations (self-report methodology); de-identified aggregate results will be disseminated via hospital-wide safety briefing (March 2026), Chief Nurse report, and optional UST-Legazpi Graduate School repository without individual attribution. Data sharing with qualified researchers is available upon reasonable request following RA 10173 anonymization protocols and institutional data access committee approval.

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